reduced the occurrence of VAs (2.7±0.48, 2.5±0.53, 1.7±0.48 versus 3.3±0.95) and ameliorated the shortening of 90% repolarization of action potential durations (APD_{90}) and the dispersion of APD (APDd) during myocardial ischemia reperfusion.
Conclusions: Taxol pre-treatment reduces ischemia-related VAs, improved APD_{90}, preserves normal Cx43 expression and locations during myocardial ischemia. These findings provide potential therapeutic targets for ameliorating VAs during IR.

GW25-e0440

DPP-4 Inhibitors Repress Foam Cell Formation by Inhibiting Scavenger Receptors through Protein Kinase C Pathway

Dai Yao[1,2], Dai Dongsheng[3], Mehta Jawahar L[1]
[1]Department of Cardiology, University of Arkansas for Medical Sciences and the Central Arkansas Veterans Healthcare System, Little Rock, AR, [2]Department of Internal Medicine, The First Affiliated Hospital of Anhui Medical University, Hefei, Anhui, People's Republic of China, [3]Department of Cardiology, The First Affiliated Hospital of Anhui Medical University, Hefei, Anhui, People's Republic of China

Objectives: studies show that dipeptidyl peptidase-4 (DPP-4) inhibitors may have an anti-atherosclerotic effect. Since foam cells are key components of atherosclerotic plaque, we studied the effect of DPP-4 inhibitors on foam cell formation.
Methods: Foam cell formation was studied by treatment of primary and THP-1 macrophages with oxidized low density lipoprotein (ox-LDL) in the absence or presence of DPP-4 inhibitors (sitagliptin and NVPDPP728). The expression of scavenger receptors (SR) SRA, CD36 and LOX-1 was measured, and their role in foam cell formation in the presence of DPP-4 inhibitors was examined by their over-expression. In additional studies, role of protein kinase (PK) C and A in the effect of DPP-4 inhibitors was examined.
Results: Foam cell formation was markedly reduced by both DPP-4 inhibitors, as was the expression of CD36 and LOX-1 (CD36>>LOX-1), but not SRA. Simultaneously, there was a reduction in phosphorylated-PKC, but not PKA, content. Recovery of phosphorylated-PKC following treatment of cells with PMA negated the effect of DPP-4 inhibitors on foam cell formation. Further, over-expression of CD36 or LOX-1 blocked the effect of DPP-4 inhibitors on foam cell formation.
Conclusions: DPP-4 inhibitor exerts a potent inhibitory effect on foam cell formation from human macrophage cell line in response to ox-LDL. This effect is primarily mediated by decrease in the expression of two different SRs on monocytes/macrophages CD36 and LOX-1. This results in a decrease in ox-LDL internalization. DPP-4 inhibitors also exert a potent inhibitor effect on PKC activation, perhaps mediated by membrane-bound DPP-4, which plays a critical role in foam cell formation, inflammation and atherogenesis.

GW25-e0502

Association of SOCS3 genetic polymorphisms with insulin resistance in Xinjiang Uygur population

Jingjing Zhang, Nanfang Li, Yao Xiao-Guang, Zhou Ling, Zhang Ju-Hong, Lin Na, Hong Jing
Hypertension center of People's Hospital of Xinjiang

Objectives: To investigate the association between suppressor of cytokine signaling 3 (SOCS3) genetic polymorphisms and insulin resistance (IR) in Xinjiang Uygur population.
Methods: In this cross-sectional study on the metabolic diseases (e.g. obesity) among Uygur Chinese in Hetian, Xinjiang China,1292 Uygur individuals were enrolled. The sample size for IR subjects [homeostasis model assessment for insulin resistance (HOMA-IR) ≥2.96] was 323, whereas that for non-IR controls was 969 (HOMA-IR<2.96). Representative variations were selected according to gene database and genotyping using the TaqMan polymerase chain reaction method in 1292 Uygur individuals. A relatively isolated general population in a relatively homogeneous environment and a case-control study was conducted to test the association between the genetic variations of SOCS3 gene and insulin resistance.
Results: There was significant difference of genotype distribution of rs4969168 between insulin resistance and control groups in the male population (P=0.027). Although the insulin resistance related quantitative phenotypes have no significantly difference in individuals with GG AG and AA genotypes of rs4969168 in total, male and female population (P>0.05) the mean of body mass index and the median of fasting insulin increased in individuals with GG AG AA genotypes of rs4969168 in male population. But not in total and female population. Haplotype 2 (rs12953258C-rs4969168A-rs9914220C) was significantly associated with a higher prevalence of IR in male population (P=0.023). The logistic regression analysis showed that AG genotype of rs4969168 variation might be a protective factor for insulin resistance in male (OR=0.564, 95% confidence interval 0.344-0.925. P=0.023).
Conclusions: The present study suggests that the rs4969168 polymorphism in SOCS3 gene may be associated with insulin resistance in Xinjiang Uygur men.

GW25-e0520

Cardioprotective effect of sCR1 on myocardial ischemia-reperfusion injury in Rats

Guo Wenyun, Huang Lan
Institute of Cardiovascular Diseases of PLA, Xinqiao Hospital, Third Military Medical University, Chongqing, People's Republic of China

Objectives: The aim of this study was to investigate the effects of soluble complement receptor 1 (sCR1) on rat models of myocardial I/R, explore its potential mechanisms of cardioprotection.
Methods: Myocardial ischemia-reperfusion model was built, randomly assigned to sham operation group (SOG) and ischemia reperfusion group (IRG) and sCR1 pre-treatment group (CPG). Observation on myocardial infarct size and microstructure of each group, using RT-PCR and Elisa to detect expression of LC3-II and Beclin1 mRNA and protein.
Results: Compared with IRG, myocardial infarct size and microstructure damage are reduced in CPG. The mRNA and protein of Beclin1 and LC3-II were detected in each group of Myocardial, while in CPG increased than IRG.
Conclusions: sCR1 could protect myocardial ischemia-reperfusion injury, may be associated with fading excessive autophagy in myocardiac.

GW25-e0544

Effects of Salvianolic acid on proliferation, adhesion and NO secretion activity of human peripheral endothelial progenitor cells

Yan Feng-Di, He Shenghu
Department of Cardiology, Northern Jiangsu People's Hospital, Affiliated Hospital to Yangzhou University, Yangzhou, 225001, China

Objectives: To investigate the effects of salvianolic acid on the proliferation, adhesion and nitric oxide (NO) secretion activity of endothelial progenitor cells (EPCs) cultured in vitro.
Methods: The mononuclear cells (MNCs) were isolated from human peripheral blood by Ficoll density gradient centrifugation, and then the cells were planted on the human fibronectin (FN) coated culture dishes. The cells were suspended in endothelial basal medium (EBM-2) supplemented with EGM-2-MV-SingleQuots. EPCs were characterized as adherent cells double positive for DiL-acLDL uptake and lectin binding by direct fluorescent staining under a laser scanning confocal microscope. After cultered for 7 days, EPCs were randomized into 6 groups: control group, simvastatin group and different concentrations of salvianolic acid groups (0.5, 2.5, 5,10mg/L). After different periods of culturing (24h,48h,72h) the ability of cell proliferation was assayed with MTT assay, counting adherent cells assayed the adhesion activity of EPCs, the NO content was measured in the cell culture medium by nitrate reductase method to find the effect on cell secretion activity.
Results: Incubation of EPCs with Salvianolic acid increased the number of EPCs, with a maximum at 5mg/L after 24 hours (P<0.01). In addition, Salvianolic acid promotes EPCs proliferative, adhesive and NO secreting capacity.
Conclusions: Salvianolic acid can promote EPCs augmentation and enhance its proliferation, adhension and NO secreting function. It is likely to be a new mechanism of EPCs for therapy ischemic disease.

GW25-e0549

RNA interference targeting E637K mutation rescues hERG channel currents and restores its kinetic properties

Lu Xiaoli[1], Huang Chen[3], Sun Huanhuan[4], Lian Jiangfang[2]
[1]People's Hospital of Anji County, HuZhou, China, [2]LiHuiLi Hospital, Medical School of NingBo University, NingBo, China, [3]Xi'an Jiaotong University, Xi'an, China, [4]Department of Surgery, University of Rochester Medical Center, Rochester, NewYork

Objectives: The purpose of this study was to investigate the role of small interference RNA (siRNA) on expression of E637K-hERG (human ether-a-go-go-related gene) mutant and whether it can be used to rescue the mutant's dominant-negative suppressive effects on hERG protein channel function.
Methods: Western blot was performed to select the most sensitive siRNs to target E637K-hERG mutant knockdown. Confocal laser scanning microscope was performed to monitor cellular localization of wild-type (WT) -hERGandE637K-hERG with or without siRNA. Patch-clamp technique was used to assess the effect of siRNA on the electrophysiologic characteristics of the rapidly activating delayed rectifier K^+ current IKr of the hERG protein channel.
Results: siRNA led to a significant decrease in the level of E637K- hERG protein but did not affect the level of WT-hERG protein. WT-hERG localization in cells coexpressing E637K-hERG mutant was restored to the membrane by siRNA. The siRNA-mediated inhibition of E637K-hERG mutant restored the maximum current and tail current amplitudes. Furthermore, siRNA treatment rescued the kinetic properties of WT/E637K-hERG protein channel to a level comparable to that of WT-hERG protein channel.
Conclusions: Our findings illustrated that siRNA can effectively inhibit E637K-hERG protein expression and rescue the dominant- negative effect of this mutation by restoring the kinetic properties of hERG protein channel. It has potential clinical implications with regard to the possibility of using siRNA in the treatment of LQTS.

GW25-e0603

Expression and distribution characteristics of Nestin-positive cells in the myocardial tissue of mouse

Peng Chaoquan[1], Wu Bingyuan[1], Jiang Meihua[2], Li Guilan[2]
[1]Department of Cardiology, the Third Affiliated Hospital of Sun Yat-Sen University, [2]Center for Stem Cell Biology and Tissue Engineering, Zhongshan School of Medicine, Sun Yat-Sen university